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\* searchpa02.c

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#include <stdio.h>

#include <conio.h>

int binsearch(int a[], int i, int j, int key);

int linsearch(int a[], int n, int key);

int main()

{

int a[30], key, n, result, op, i;

do

{

printf("1.linear search\n2.binary search\n3.quit\n");

printf("\nenter your choice");

\_flushall();

scanf("%d",&op);

switch (op)

{

case 1: printf("\nenter number of elements");

\_flushall();

scanf("%d",&n);

printf("enter list of %d elements",n);

\_flushall();

for(i=0;i<n;i++)

scanf("%d",&a[i]);

printf("enter the element to be searched");

\_flushall();

scanf("%d",&key);

result=linsearch(a,n,key);

if (result==-1)

printf("not found");

else

printf("found at location = %d",result+1);

break;

case 2: printf("enter number of elements");

\_flushall();

scanf("%d",&n);

printf("enter sorted list of %d elements",n);

\_flushall();

for(i=0;i<n;i++)

scanf("%d",&a[i]);

printf("enter the element to be searched");

\_flushall();

scanf("%d",&key);

result=binsearch(a,0,n-1,key);

if (result==-1)

printf("not found");

else

printf("found at location = %d",result+1);

break;

}

}

while(op!=3);

return 0;

}

int binsearch(int a[], int i, int j, int key)

{

int c;

if (i>j)

return (-1);

c=(i+j)/2;

if (key==a[c])

return (c);

if (key>a[c])

return (binsearch(a, c+1, j, key));

return (binsearch(a, i, c-1, key));

}

int linsearch(int a[], int n, int key)

{

int i;

for(i=0;i<n;i++)

{

if (a[i]==key)

return (i);

}

return (-1);

}

